REMARKS

Claims 3, 9-13 and 16-22 remain in the case. Claims 9 to 13 are withdrawn from consideration pending allowance of product claims.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claim 3 has been rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to point out and distinctly claim the subject matter which the Applicant regards as the invention. The Applicant respectfully traverses the rejection as follows.

Applicant's protein has been designated Cry31Aa2 and its full amino acid sequence appears in the sequence listing of the present application as SEQ ID NO: 2. Cry31Aa2's trypsin-activated fragment corresponds to residues 251-742 of SEQ ID NO: 2. Cry31Aa2's trypsin-activated fragment is as set forth in SEQ ID NO: 8.

The Examiner identifies Mizuki et al. (Parasporin, a human leukemic cell-recognizing parasporal protein of Bacillus thuringiensis, *Clin. Diagn. Lab. Immunol.* 7: 625-634 (2000), EMBL; AB031065; BAB 11757.1) at page 8 of her Office Action as the closest art of record. The Examiner's query results show an alignment of residues no. 1 to 491 of SEQ ID NO: 8 with residues **232 to 722** of Mizuki et al. Mizuki et al.'s protein has been designated Cry31Aa1.

Cry31Aa1's full amino acid sequence appears in the sequence listing of the present application as SEQ ID NO: 18. As was shown in the Examiner's query, the fragment consisting of residues 232-723 of Cry31Aa1 is homologous to the sequence as set forth in SEQ ID NO: 8 but not identical to it. Figure 5 of the present application also shows an alignment of Cry31Aa1's and Cry31Aa2's full amino acid sequences. A comparison of the sequences of 492 amino acids corresponding to residues 232-723 of Cry31Aa1 and residues 251-742 of Cry31Aa2 (SEQ ID NO: 8) reveals that the two sequences differ by 15 amino acid and thus have an homology of 96.95% amino acid identity (i.e. 492-15=477. 477/492=96.95).

By the terms recited in claim 3 "An isolated polypeptide comprising a sequence having at least 97% identity with the complete amino acid sequence in SEQ ID NO: 8, ***with the proviso that said polypeptide is not constituted of the***

amino acid sequence as set forth at positions 232 to 723 of SEQ ID NO: 18.", the Applicant thus means to clearly exclude from claim 3's scope a polypeptide that corresponds to Cry31Aa1's residues 232 to 723.

In view of the above and foregoing, it is respectfully requested that the Examiner withdraw her rejection of claim 3 under 35 U.S.C. § 112, second paragraph.

REJECTIONS UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

Claims 3 and 16-22 have been rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement. The Applicant respectfully traverses the rejection as follows.

Claim 3 is now amended to specify that it recites an activated Cry polypeptide having cytotoxicity against human cancer cells. Support for this amendment may be found in paragraphs [0081] to [0085] and [0087] of the application and in Table 2 at page 32 of the application where the cytotoxic activity of the polypeptide as set forth in SEQ ID NO: 8 is showed.

The Examiner is also referred to Table 2 and to paragraph [0087] for a confirmation that a polypeptide having 96.9% homology with SEQ ID NO: 8, namely the trypsin-activated Cry31Aa1 polypeptide (i.e. the disclaimed fragment of residues 232-723 of SEQ ID NO: 18) also has cytotoxic activity against human cancer cells.

The present application provides an alignment between these two polypeptides. It is submitted that this alignment discloses a correlation between structure and function of the claimed polypeptide. This alignment shows which residues of the claimed SEQ ID NO: 8 sequence may be substituted without affecting the cytotoxic activity against human cancer cells of the polypeptide.

In view of the above and foregoing, it is respectfully requested that the Examiner withdraw her rejection of claims 3 and 16-22 under 35 U.S.C. § 112, first paragraph.

Examiner requested a confirmation that the specific strain deposited under no. IDAC01201-5 was made under the terms of the Budapest Treaty and that the strain will be irrevocably and without restriction or condition released to the public

upon the issuance of the patent. The Examiner is referred to the attached Declaration executed by the inventor confirming this.

OBJECTION TO CLAIMS

The Examiner requests that claims 1, 2 and 4 to 15 be cancelled.

The Applicant has cancelled claims 1-2, 4-8 and 14-15. Claims 9-13 however remain in the case with a withdrawn status.

The Examiner is advised that the Applicant does not wish to cancel process claims 9-13 which all depend of claim 3 because he wishes to retain the right to rejoin these claims if and when elected product claims are found allowable pursuant to the provisions of MPEP § 821.04.

The rejections of the original claims are believed to have been overcome by the present remarks. From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such an action is earnestly solicited.

Authorization is hereby given to charge deposit account no. 07-1742 for any deficiencies or overages in connection with this response.

Respectfully submitted,
AGRICULTURE AGROLIMENTAIRE
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Date: July 11, 2006

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Encls.: Declaration under 37 CFR 1.132